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TUBERCULOSIS

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ORIGINAL ARTICLES.

ARTIFICIAL LIGHT BATHS IN THE TREATMENT OF TUBERCULOSIS.

By J. H. SEQUEIRA,

M.D., F.R.C.P., F.R.C.S.,

Physician to the Skin and Phototherapy Departments of the London Hospital.

THE work of Bernhard and of Rollier in the treatment of surgical tuberculosis by heliotherapy in the higher Alps has established the value of this therapeutic measure. It has been shown that the successful results do not depend upon the altitude, but upon the actinic rays of the sun. At a high altitude the proportion of available actinic rays is higher than at the sea-level. The sun is clearer, there is less absorption of the shorter wave lengths, and there are more sunny days. That a high altitude, though desirable, is not essential has been amply demonstrated by the results obtained by Gauvain at Alton and Hayling Island. In this country and in Northern latitudes generally the number of days on which sunlight is available is small, and it is necessary, in order that continuity of treatment may be maintained, to supplement the sun's rays by efficient artificial illuminants. The artificial illuminants commonly used are (1) powerful carbon arcs, and (2) mercury vapour lamps.

Reyn, the director of the Finsen Light Institute of Copenhagen, holds strongly that the best results are obtained with large carbon arcs, and his installation consists of a number of arc lamps of 50 to

75 ampères. This arc has also been used with success in my clinic at the London Hospital. The patients are treated either in the sitting or the recumbent position. The technique is very simple. When the sitting posture is adopted, the patients, nude except for drawers, sit on stools around the arc lamp. The front and back are exposed alternately, care being taken when the anterior surface is



CHILDREN HAVING A LIGHT BATH.¹

treated that the eyes are adequately protected by a thick opaque mask. The length of exposure at the beginning is half an hour daily, the time being increased gradually until sittings of two and even four hours are given. Some patients with a fair, delicate skin develop an erythema,

¹ We are indebted to the editor of the *British Journal of Dermatology* for the loan of the block permitting the reproduction of the above illustration accompanying the article appearing in Vol. xxv., No. 3, 1923.

which may be followed by a mild desquamation, but this is of little moment. In the course of three or four weeks the skin becomes in many instances deeply pigmented, and there is a general belief that the more readily the patient becomes pigmented the better the therapeutic effect. With a large arc of this type we are able to treat eight children at a time. When the treatment is applied to recumbent patients, the anterior and posterior surfaces of the body are alternately exposed to the rays of the arc.

The advantage claimed for the carbon arc is that its spectrum approaches that of the sun, and this can be more nearly approximated to the solar spectrum by having a tungsten paste core to the positive carbon. The carbons are 12 inches long, the positive being 25 mm. in diameter and the negative 18 mm.

Such arc lamps with a high ampèreage require a transformer to bring down the voltage usually available in municipal installations from 220 to 240 volts to 70 volts. The alternative is an arrangement of lamps in series, which requires special adjustments. When the voltage is low—e.g., 100 volts—a transformer is unnecessary. Arcs of lower voltage are available. We obtained excellent results with a scissors arc of 25 ampères, which can be worked off the usual mains (220 to 240 volts). The arc being smaller, the patient must be nearer the illuminant, and fewer patients can be treated at one time. Lamps of this type are suitable for small installations. In all these lamps the arc is naked. An arc enclosed in a glass envelope is useless, as the glass cuts out the essential actinic rays.

The mercury vapour (quartz) lamp consists of a "burner" containing mercury vapour, behind which is placed a reflector. The lamp is mounted on a stand which allows of its being placed at a suitable height. It is worked off any direct electric current. The practical "life" of a burner is about 1,000 hours, and the cost of current is small. A very high actinic illumination is obtained. The patient lies or stands at a distance of about 3 feet, and at the beginning of the treatment exposures are given to small areas, and both the area and length of exposure are gradually increased until the whole of the back or front of the body receives half an hour's illumination. An inflammatory reaction with erythema, slight vesication and desquamation is common, and after a series of exposures the skin becomes strongly pigmented. Care is required in the dosage, especially when a new "burner" is installed. The eyes must be adequately protected by a thick mask. The advantage of the mercury vapour lamp is that the exposures required are shorter, but we find the patients require more careful watching than with the carbon arc, and, naturally, it is impossible to treat several cases at one time. Several types of mercury vapour lamp are available. We have used throughout a model supplied by the Hewitt Electric Company, Ltd.

Treatments are given daily over a period of three months or longer. The most striking results have been obtained in cutaneous and surgical tuberculosis. Reyn found that the percentage of cures of lupus treated by the local application of concentrated actinic light alone (Finsen treatment) is about 60. In my own clinic it was rather higher, but we do not get so grave a type of lupus in London as was formerly seen in Copenhagen. By a combination of the Finsen (local) treatment with the light bath the percentage of cures can be raised to 90. My own experience confirms this estimate. The cases in which the local treatment by light failed were those in which either there was extensive disease of the nasal cavity beyond the reach of the light, or a type in which the activity of the process in the skin was too rapid to be overtaken by the purely local measure. Strandberg showed that light baths alone will cure most cases of lupus of the mucous membranes, and I am able to confirm this observation. Extensive lupus of the skin may also be cured by light baths only, but much more rapid progress is made by combining the general with local treatment. Sinuses leading down to tuberculous foci in bones, etc., heal remarkably under the light bath without local treatment. In general we may say that surgical tuberculosis responds well. It is rare to find a case which does not respond, but one must remember that the greatest care is required in the treatment of patients who have pyrexia. Recently a case of cutaneous tuberculides apparently secondary to hilum phthisis in which there was pyrexia not only failed to respond, but appeared to get worse as the result of the light bath. Such a result corresponds with that seen in the cases of phthisis which "flare up" as a result of heliotherapy.

It is still uncertain by what means the light bath produces its effect. Not only are tuberculous processes beneficially affected, but the patient's general condition improves remarkably. Listless, dull, apathetic subjects become bright and active, and take an interest in life. Observations made in my clinic by Dr. Argyll Campbell show that there is no material alteration in the basal metabolism. Dr. Colebrook has shown, however, that both in animals and in man the bactericidal power of the blood is increased by exposure of the body to actinic light. In animals this increase is of some hours' duration only. It has been suggested that the pigmentation of the skin may be evidence of a chemical change which produces a substance or substances allied to vitamins which increase the resistance of the organism. So far, however, it would appear that we may look upon the pigmentation of the skin as an index of efficiency of the treatment. That artificial light treatment deserves the careful attention of all those interested in tuberculosis is sufficiently evident, and it is gratifying to know that in several quarters the necessary apparatus

has been or is being installed. It should also be remembered that much benefit is likely to follow the use of this measure in convalescence from infectious fevers, particularly in measles and pertussis in the case of children. This aspect of the light bath treatment has already received attention from Rollier at Leysin and elsewhere.

A VISIT TO LEYSIN AND DR. ROLLIER.

By GATHORNE R. GIRDLESTONE,

F.R.C.S.

BOTH Dr. Rollier and his clinic for surgical tuberculosis at Leysin are of world-wide reputation. We travel past the glorious Lake of Geneva, through Montreux and on to Aigle. There one has to jump quickly out of the train, for it hardly condescends to stop, and enter a queer tram-like conveyance which is to carry us up the mountain slopes. After a long period of repose this vehicle meanders through the streets of Aigle village, then, having swapped horses at a little junction just behind the town, it starts climbing steeply up a track railway amongst the vineyards which cling to the lower slopes of the mountains. It ascends steadily and persistently until Leysin village is reached at a height of about 5,000 feet. There we alight, or we should be carried up into the still more rarefied air of upper Leysin breathed by pulmonary tuberculosis patients. By Dr. Rollier's courtesy and generosity we were given quarters in Miremont Clinic, and thus enjoyed many of the beauties and privileges of the treatment without being qualified by the disease.

Scattered on the steep slope of the valley a large number of hotel-like chalets look south to the sun, and south-east across the Rhone Valley to the Dents du Midi. In these hospitable clinics live some 600 patients recovering from surgical tuberculosis. On the southern face of these buildings are verandahs, and when the sun shines the patients' beds are pushed out into the open. To come out from the closed, and often crowded, inner room on to a verandah lit by most brilliant sunlight, and to breathe air of a sharp purity made perfect by the sun and the snow, must be a joy indeed. To be drawn back and closed up again in the afternoon for evening and night must be sorrow enough to make the morning exit more delightful still.

It happened that on the morning following our arrival Dr. Rollier was to give a lecture and clinical demonstration to about thirty medical students from Lausanne; for ten days they had been attending a clinical course on tuberculosis in Upper Leysin, and were now to spend

their last morning with Dr. Rollier. His lecture outlined the general treatment of surgical tuberculosis, but naturally was specially concerned with heliotherapy. Fortunately I had read his book on the subject, or my feeble comprehension of the French language when spoken with eloquence and enthusiasm would have let me down. Many photographs were shown to illustrate his methods of splintage and to demonstrate the effects of his treatment. A cinema film of "The School in the Sun" followed. I had somehow picked up a mistaken idea that this open-air school of children of unclad body, untrammelled movement, and unlimited energy, was the final stage of the treatment of surgical tuberculosis—a very extravagant idea due to the misty enchantment of distance, but quickly cleared away by a visit. Rather is it a preventive measure, a means of developing the vitality of the whole body and the function of the skin in delicate children, or those thought likely to have had massive tuberculous infection in their homes. When the film was finished a number of patients chosen to illustrate various methods of splintage were wheeled in. After examining them we all went down to "The Chalet," Dr. Rollier's original clinic, opened in 1903. Here, as in the other clinics I visited with Dr. Rollier, we discovered patients suffering from all varieties of surgical tuberculosis.

In each clinic resided a familiar spirit, and, summoned by Dr. Rollier's entry, she appeared; during the round Dr. Rollier and his familiar discussed at large, for Dr. Rollier lives amongst these his helpers a simple village life, strenuous in its daily allotted toil, but restful in its freedom from alarms and excursions, and above all in his avoidance of form and ceremony. Rollier moves simply amongst his team, *primus inter pares*, not at all as the king of the village; we were given the impression that the whole thing had just grown, he and they with it—the *os magnum* amongst the carpal bones. But all knew their job, there was never any doubt of that. Every patient was placed truly on his or her built-up support of firm pillows, every pelvis was square with the body and level with the thighs. The effect was not merely orderliness, but the unflinching correctness that comes only with long custom. It all seemed purposeful; Dr. Rollier appears to have made over to these helpers not merely his technique but his mind. His methods of producing and keeping the right posture depend for their efficacy on this informed and careful skill. Truly Dr. Rollier has brought into being a very efficient organization; by his regular round, his unassuming and earnest personality, his gift of expression and explanation, he has made his staff almost part of himself.

In the clinics which I visited with Dr. Rollier the wards consisted of smallish rooms each containing as a rule from three to five patients. It was remarkable to see representatives of nations recently at war now lying in apparent peace at the closest quarters. Now and then I hit

upon an English or Scottish patient who welcomed with joy the sound of an English tongue. Patients come to Leysin from all parts of Europe and beyond; not long ago, at one time, and in one clinic, there were patients of eighteen different nationalities! But in the more expensive clinics each patient has a room to himself. I will try to summarise Dr. Rollier's aims. They are these: (1) Development of health and vitality. (2) Development of skin function by its exposure to the sun and air. (3) Correction of deformity. (4) Healing of disease. (5) Freedom of the affected joint from covering. (6) Extension and maintenance of mobility.

The whole of Rollier's treatment is carried out in bed. During this time the patient's muscular condition is kept good, and the muscles controlling the joint are kept active, so that when the patient gets up he can protect it from harmful strain or excessive movement. When, in Dr. Rollier's opinion, which is largely based on X-ray evidence, the disease is healed, the patient gets up for a test period of six or eight weeks, and then goes home "cured."

Now for some characteristic details of treatment. Naturally I begin with *drinking, smoking and eating*. The hospital-class case has neither alcohol nor tobacco, though if you are an aged and hardened smoker you will be allowed some indulgence. But you must also be prepared for a simple table if you want to do well. "Undue fat is pathological." Rollier says that patients in clinics where the living is plain do better than those in the grand clinics, where the food is like that of a good hotel. He would like to simplify and reduce the food for health's sake, but "I cannot do it, they would think I economize!" "Meat does not go well with the sun"; he prefers to make the staple articles of diet macaroni, rice, vegetables, and most of all prescribed spinach.

The sun is another thing of which you can have too much, even at Leysin. The dose and effect are carefully watched. A daily record is kept on each patient's chart of his hours of exposure. After some days of bright sunlight a couple of cloudy days are welcome. So also patients are not allowed too much fresh air. "They go out early, come in before sunset, and make themselves *cosy*." I was glad to see one or two bottles of cod-liver oil, and to be told that Rollier found it helpful though he did not give it as a routine.

Dr. Rollier and his assistants have a tremendous belief in the benefit of counter-irritation in synovial cases, and particularly in the use of the actual cautery. This conviction is even shared by his patients, which says a great deal for a painful procedure which is repeated every ten days! In the ordinary way eosin (10 per cent. in alcohol) is painted on the joints before sunning. If they don't resolve quickly enough the skin over the areas where the synovial membrane is swollen is touched with the white-hot point repeatedly. Several patients expressed their

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faith in it and asked for its repetition. If a patient dislikes the idea too much a blister is applied instead.

Dr. Rollier aims always at securing mobility in an affected joint. He allows a little movement during treatment, and tries to get all the movement that is possible at the end of treatment. He does not seem to fear that a limited range of movement at the knee, and a slip, may lead to a wrench and rupture of the cicatrized foci, and so to a flare up of the disease; nor does he show signs of anticipating that the irregular joint surfaces, which must follow extensive bone destruction, and are evident in some of his radiograms, will eventually, with use in a weight-bearing limb, lead to osteoarthritis. I asked Dr. Rollier whether hip cases wore any apparatus when they got up. "No; apparatus causes atrophy, and atrophy of the (protective) muscles is a big danger." In spinal cases if the block is not structurally good a spinal support, usually celluloid, is supplied. And sometimes a patient will wear a knee cage for one or two months after getting up to protect limited movement.

After reading Dr. Rollier's writings a surgeon feels that he must step warily at Leysin. But with some at least of Dr. Rollier's views of surgery all surgeons will agree. He describes the unnecessary opening of a cold tuberculous abscess as "criminal, almost a condemnation to death, not at once but in two or three years." "We cannot struggle too much against it." "The difference between open and closed tubercle is like that between night and day." "The prognosis in closed tubercle is very good: in open very often the worst." "A surgeon can be 'catastrophic.'"

And now a concluding paragraph in the form of an *assessment*. After a visit to Leysin one is left thinking, and brought face to face with this question:—Can a hospital in a far-distant place so plan and practise the treatment of its patients as to make up for its isolation? The isolation means first that it cannot rely on getting hold of its patients early, for it must receive cases in every stage from every country. Secondly, it cannot maintain continuous after-care, nor can it expect after-care skilled in orthopædic methods, it cannot even rely on any after-care at all. It is very interesting to examine the line of treatment which Dr. Rollier has worked out. Clearly the impossibility of maintaining after-care has guided his thought. The prolonged retention in bed, with the carefully made and controlled diagnosis of healing, is intended to finish the treatment so completely as to enable the patient to go out free from the need of any further technical care. Such is clearly the intention, but the very facts and conditions of the disease preclude the certainty of a cure being made final within the limits of a stay in any hospital. Furthermore a patient showing every sign of cure in a special hospital may relapse under

the less favourable surroundings of home. This danger cannot be eliminated at Leysin, where the climatic conditions are specially healthy and the contrast of an ordinary or unfavourable home life all the more marked. The hope of success lies in the completeness of the process. But we all know of failures. We know that some failures are due to relapse after leaving Leysin; but others come from the patients not being patient, expecting results too quickly, feeling themselves well and going too soon, then quickly finding themselves as bad as ever or worse. Every patient passes through two critical periods—the first during the stage of active disease, the second when he leaves the open-air hospital and goes home, leaves sunlight, open air, rest and good food—conditions natural to his body yet artificial in the twentieth century—and goes to the street, the stuffy bedroom, the quiet close office, or the clanging factory. This is a stage of crisis more doubtful than the first. What will be the outcome? It cannot be foretold. Such an experiment to be safe must be made under careful supervision—the patient watched in hospital and then at home. In some cases all will go well, in some special prolonged after-care is necessary, but in a certain proportion patients who leave hospital in excellent condition will go downhill at home and need prompt re-admission to save serious relapse. And it is relapsed cases that supply most of the tragedies of our hospitals (the others come from delayed admissions). We must grant at once that where there is no good local hospital a good distant hospital is a great benefit. But can a good distant hospital ever compete with a good local hospital? Can a hospital in Switzerland even with climatic advantages do as much for a Yorkshireman as a hospital in Yorkshire? Certainly not.

Dr. Rollier and his Leysin centre have done great things. They have emphasized the gifts of the sun and the cooling air; the scheme of treatment is admirably adapted to the circumstances; the staff is animated and guided by the special purpose of its leader. As a result Rollier and his band of enthusiastic skilled co-workers have provided a place of healing for thousands of patients coming from countries where there was no other place to go to, and oftentimes no other chance of cure.

TRAINING OF NURSES FOR THE CARE OF CASES OF PULMONARY TUBERCULOSIS.

By PETER W. EDWARDS,

M.B., CH.B.

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Hon. Secretary, Society of Superintendents of Tuberculosis Institutions.

THE Society of Superintendents of Tuberculosis Institutions has just conducted its first examination for nurses in pulmonary tuberculosis, and some ask, Why? The Society is desirous of securing a high standard of nursing. The General Nursing Council could not, or would not, face the difficulties of organizing a system of nursing in institutions for pulmonary tuberculosis beyond advising a merely nebulous "affiliation scheme." The Society was fortunate enough to have not only the goodwill, but also the active help and guidance of experienced matrons, and this fact speaks volumes. Matrons of institutions for pulmonary cases have found that certain special attributes and specialist knowledge are called for in the nursing of tuberculous patients, and they have realized that ordinary training in a general hospital leaves a nurse at a loss on taking up service in a sanatorium.

In instituting the special examination it is hoped to provide the general trained nurse with a specialist qualification, and to add to her equipment for various public health posts, and also to fit the untrained woman for work in the sanatorium or chest hospital. These untrained women are, for the most part, those who will later proceed to a general training. They also include those who have broken down whilst undergoing general training, and a number of others, full of nursing instincts, who are physically incapable of standing the crowded conditions, and oftentimes foul atmosphere, of a general hospital. These women can, and do, make excellent sanatorium nurses, workers who are able to serve with benefit to their health.

The syllabus of the training incorporates all that is necessary for the first examination of the General Nursing Council, and the lectures and practical work bring before the nurses certain features, almost unknown to the average general trained nurse.¹

Death may be absolute rest, but absolute rest is not the beginning of death. It is one of our most valuable aids in the treatment of pulmonary tuberculosis; but how difficult to get the nurse to grasp its

¹ The details of the scheme proposed by the Society of Superintendents of Tuberculosis Institutions for "Training and Examination of Nurses in Institutions for Cases of Pulmonary Tuberculosis" was published in *Tubercle* for February, 1924, and particulars regarding this scheme may be obtained on application to the Hon. Secretary, Dr. Peter W. Edwards, Cheshire Joint Sanatorium, Market Drayton, Salop.—*Ed. B.J.T.*

detail and significance. Graduated rest, a most excellent thing, even if theory be weak, and yet how rarely one meets a general trained nurse who will aid the physician and patient in this matter. The element of police work inseparable from it is abhorrent, and few there be who undertake it. The nurse has not realized that the "up" patient is as much in need of her vigilant care as any acute bed case, and too often, unwittingly perhaps, the patient is given rein to his desires; and, instead of a "cure," we get the evolution of the "chronic," who, in despair, thinks his days have crackled and "gone up in smoke."

Every sanatorium superintendent has had experience of the nurse who regards the temperature as normal because a half-minute thermometer has been in the patient's mouth or axilla for quite a minute with no visible rise! Rectal temperatures are likewise not understood, and rarely properly taken. The strange opinions on the infectivity of tuberculosis are dissipated in a sanatorium—the last place to develop phthisis. In this connection, a scandalous type of spitting-mug still adorns hospital lockers, and some egregiously foolish ideas persist about sputum destruction.

The fanciful ideas concerning diet for the tuberculous are amazing, and many a "lunger" has been ruined by these warped notions. Few nurses comprehend that the processes of digestion are not entirely beneficent. Much discomfort is caused to the patient by the unwanted end-results of metabolism. Instruction is greatly needed regarding personal and domestic habits, especially in regard to clothing. The rational use of fresh air is seldom taught in hospitals, and one finds extraordinary measures adopted for treating night-sweats.

Knowledge of sanitation, the social outlook, the correct strapping of a chest, a real sense in the management of hæmoptysis, the application of cups, preparation for aspirating and pneumo-thorax, the use of respirators, inhalers and insufflators, are matters that seem to have been rarely touched upon in the training of an ordinary nurse.

Little is learnt of the psychical make-up of the patient with a slowly progressing malady. How often one finds—and how bad it is—a nurse producing the valetudinarian by discussing every symptom, physical and mental, with the patient. She has not been taught that a chronic disease often causes an equally chronic emotional disturbance that must be taken into account. The patient's sense of his general failure to respond to his environment is a thing almost unknown in acute disease.

It is clear, then, that systematic training is needed for the modern nursing of pulmonary tuberculosis. The care of the tuberculous offers a field of service and interest to the true nurse who has got over the glamour of the operating theatre.

THE TUBERCULOSIS PROBLEM IN SCOTLAND.

By JOHN GUY,

M.D., F.R.C.P.ED., D.P.H.ED.,

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THE present position of tuberculosis in Scotland is one of hopefulness, whether it is considered from the point of view of the number of deaths due to the disease or from that of the various activities in operation for the purpose of combating it. Tuberculosis steadily diminishes, and I am firmly of opinion that a day is ahead when it will be as rare as typhus; this day may be remote, perhaps one or two generations ahead, but it will dawn I have no doubt, and in the meantime one may expect to see the death-rate here in the capital city of Scotland at 0.5 per thousand within the next twenty years.

When the figures indicative of the deaths due to all forms of tuberculosis are studied they show some very encouraging features. In the year 1922, the last year for which figures for Scotland are available, the total number of deaths stands at 5,818, and this, with the exception of the year 1921, is the smallest number of deaths recorded in any single year since registration was instituted in 1855. The maximum number of deaths occurred in 1870, and was 13,027. Since that year tuberculosis has gradually and persistently fallen until in the year under consideration the death-rate is no less than 55.3 per cent. less than it was in 1870.

Considering the decline, not from the actual number of deaths, but from the death-rate per 100,000 (taking for comparison decades instead of years), the reduction is noteworthy.

TABLE INDICATING DECLINE IN DEATH-RATE FROM TUBERCULOSIS.

Decade.	Rate per 100,000.		
1861-1870	379
1871-1880	354
1881-1890	278
1891-1900	239
1901-1910	211
1911-1920	158
For the year 1922	119

Generally speaking, the death-rate from tuberculosis is highest in the large towns and smallest in the country districts. Several of the latter, however, show death-rates far in excess of the cities. These

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districts are chiefly in the northern and western fringes of Scotland. Thus, in general, the large towns show a death-rate of 136 per 100,000 and the country districts 98, but in parts of Orkney the rate stands at 339. In a part of Ross and Cromarty 263, and in a portion of North Uist, one of the Outer Hebrides, the rate is 221. The high rate in these districts is easily accounted for by the conditions under which the people live. The "black house" may occasionally still be seen: a round house with walls several feet thick and frequently damp, with a fire in the middle of the room without a chimney, the smoke of the fire finding its way out by the door, the roof low and thatched and the floor of earth. Other factors enter into the causation of the high death-rate, but they need not be discussed here. The reduction which has taken place in the large towns will ultimately be seen, also in the outlying parts of Scotland, for the activities of the Medical Officers of Health are felt even in these remote districts.

The improvement in the tuberculosis death-rate is not confined to any one aspect of the disease, but is found in all its varieties. Thus comparing the number of deaths in all forms of the disease in the years 1912 and 1922 we find that the position is as follows:

FORMS OF TUBERCULOUS DISEASE.

	1912.	1922.
Pulmonary tuberculosis	5,306	4,061
Tuberculous meningitis	1,018	594
Tuberculosis of intestine and peritoneum	875	538
Other tuberculous diseases	950	625

This decline has been continuous throughout the period under consideration. As a corrective, however, against any dogmatic views as to the exact cause of this improvement it is well to quote the opinion expressed in the Annual Report of the Scottish Board of Health for 1922: "How far this decrease is due to the organized measures which have been adopted for combating the disease it would be premature yet to hazard an opinion."

The institutions in Scotland for the treatment of tuberculosis have grown considerably in recent years. There are now at least 104 sanatoria and hospitals approved by the Board of Health for this purpose. The total number of beds is 3,711. This does not include accommodation in poor-law institutions. The number of approved dispensaries at the end of 1922 was 31.

There are other factors which should be noted as exerting a far-reaching effect on the tuberculosis question in Scotland.

1. The increased attention paid to the housing of the working-class population will bear fruit abundantly in later years.

2. The growing opinion in favour of a milk supply free from tuberculosis is noteworthy, and the result of this is seen in the increasing numbers of dairy farmers supplying Grade A Certified Milk (*i.e.*, milk from a non-tuberculous herd of cows). In Edinburgh alone there are four dairies supplying such milk, and the number will increase rapidly in the near future. The supply of a tubercle-free milk is raising profound problems in immunology. That a degree of immunity is produced by the administration of frequent small doses of bovine tubercle bacilli is accepted by many, and this immunity, it is stated, is seen in the chronic nature of pulmonary tuberculosis in the adult. What the effect will be on the immunity of future generations by the supply of a tubercle-free milk in infancy is unknown, and there are not wanting some who reckon that because of this tuberculosis in the future will assume the rapid miliary type so commonly seen in less civilized communities. This is, of course, pure speculation in a very difficult and unknown future, and in the meantime we shall do well to secure a tubercle-free milk and leave future problems in immunity to be dealt with when they arise.

3. An increased attention is now paid to the growing child, and a large number of beds are set apart for their treatment. The non-pulmonary variety of tuberculosis is being attacked with a resoluteness which augurs well for the future. In Glasgow, Lanarkshire, and in Edinburgh there are altogether several hundred beds for these children. The artificial sunlight cure is being introduced in several of our institutions—a necessary adjunct in our comparatively sunless country. The expenditure on non-pulmonary tuberculosis has another beneficial effect in that it causes members of our lay committees to ask why we should have tubercle in the milk when it causes so much of our non-pulmonary tuberculosis.

4. Another very important point to be noted is the provision in the Universities for teaching regarding tuberculosis. In Edinburgh there is a "chair" founded for this purpose, and a three months' course is obligatory on all students. In Glasgow University a lectureship has been instituted, so that the future medical men from these schools begin their medical career with a much greater knowledge of the subject than their immediate predecessors did.

Certainly we in Scotland, who are striving for the prevention and arrest of tuberculosis, may be counted as optimists.

ASSOCIATIONS AND INSTITUTIONS.

THE DEESIDE SANATORIA IN SCOTLAND.

NORDRACH-ON-DEE AT BANCHORY; TORNA DEE AT MURTLE.

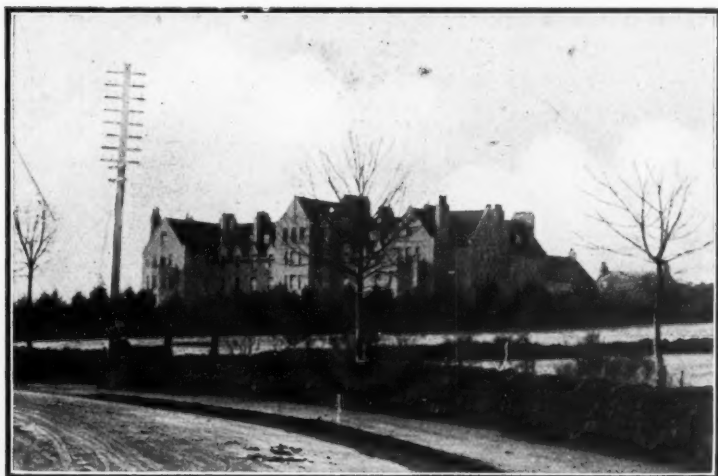
THE popular fallacy that tuberculosis can only be successfully treated in foreign climates, although exploded, continues to appear from time to time. It is this fallacy which leads numbers of patients who have equal, if not superior, facilities for treatment at their door to seek the cure of their lung disease at foreign resorts, with all the accompanying disadvantages of temporary expatriation and absence from friends.



NORDRACH-ON-DEE, BANCHORY, N.B.

For it is not generally recognized, as it should be, that experience has shown that patients who regain their health in this country, where their after-life is to be spent, probably stand less chance of relapsing than those whose recovery has been obtained in more favoured surroundings. Further, provided patients avail themselves of the best facilities for treatment in our own country, their chances of regaining their health are by no means less than when they go farther afield. It was to provide such facilities for our own countrymen in our own land that the sanatorium movement was started in Great Britain at the beginning of the present century. And the experience gained in the quarter of a century which has since elapsed, has abundantly

proved that the results obtained in our best sanatoria at home, alike in numbers and in durability, are second to none in any part of the world. For the most part home sanatoria are not less well equipped and not less fully and efficiently staffed than most of the Continental institutions. In the forefront of the British sanatoria stand the two well-known Scottish institutions in Middle Deeside—Nordrach on Dee at Banchory and Torna Dee at Murtle. In the case of the former the choice of site on Middle Deeside was decided upon only after most exhaustive consideration. The sanatorium is built in the middle of a pine forest on the southern slope of a mountain, is protected on the north by the Hill of Fare (1,545 feet), and on the south by the Goch Hill (1,104 feet); whilst to the far west lies the Grampian range of mountains, with its numerous peaks rising to an altitude of over 3,000 feet.



TORNA DEE, AT MURTLÉ.

A reference to standard authorities on this subject shows that amongst other scientific facts which led the Royal Commission to select Balmoral on Deeside as a Scottish health resort for Her late Majesty Queen Victoria were the following characters of its atmosphere: its relative dryness, its bracing qualities, and its exceeding richness in ozone. To these may be added its comparatively mild temperature during winter months, the high percentage of sunshine which prevails (29·2 per cent.), and the therapeutic vapours exhaled by its pine forests. As the sanatorium at Banchory was specially planned, the founder was able to materialize his ideas. Thus all rooms have a southern exposure and face the sun; the heating is by means of high-pressure steam-pipes, and the lighting by electricity. To provide against the possible contingency of a breakdown the plant of both is duplicated. Each room has its own fitted-in basin with cold and hot water supply. The bath-rooms are conveniently placed and ample in number. The library is

well stocked and contains over 2,000 volumes, and the winter garden and verandahs are much in use for resting in the open air. The more technical part contains throat, X-ray, dental, arc-light, and pneumothorax rooms, and a good laboratory. I found the X ray had been installed as far back as 1901. It is worthy of note that the high standard of work done in the laboratory has received recognition at the hands of the Royal Society and the British Medical Association, both of whom have at different times accorded grants of money to its workers in order to further its operations. Visitors are always much impressed by the grounds and surroundings. Open-air shelters are located in suitable parts of the grounds. There are many miles of walks of varying gradients in the sanatorium grounds and the adjacent pine forests, which afford abundant opportunity for exercise in sheltered surroundings. Of these many have been so constructed that even in wet weather patients may exercise so far as under-foot is concerned in comparative comfort. Torna Dee is of more recent growth, and is a product of the war. For some years during and after the war the sanatoria of Britain were totally incapable of meeting the demand for treatment of officers. It was as a contribution towards the solution of this difficulty that Torna Dee was started and a first call on its sixty beds given to the Red Cross Society. It was soon found that further rooms were required, and an extension, built of ferro-concrete and costing over £1,000 per bed, was added. It is built in its own grounds of 345 acres, and its equipment and staffing is on the same lines as that of Nordrach on Dee, except that it has in addition a first-class operating theatre. Each has three doctors and a full staff of nurses under a matron. The fees are rather lower than those at Banchory. Both institutions bear witness to the Scottish passion for thoroughness. The accessibility of these sanatoria is a convenience. One may dine in London or Belfast and breakfast in either institution.

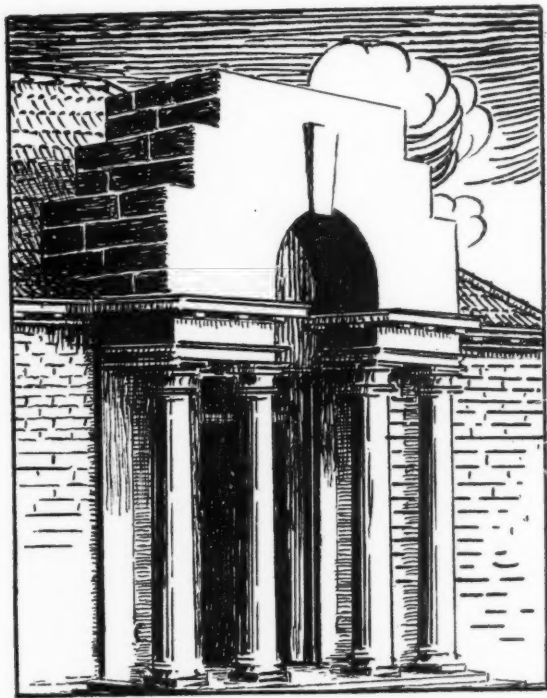
ST. ANDREW'S HOME FOR CRIPPLED CHILDREN, HAYLING ISLAND.

DR. ALBERT J. MAY, Medical Officer of St. Andrew's Home for Crippled Children, has kindly favoured us with the following notes:

The St. Andrew's Home for Crippled Children has for many years carried on the treatment of surgical tuberculosis among children. The children live entirely in the open air in shelters, the walls of which are made up with removable canvas shutters. The structure of these shutters allows of a free circulation of air, even when weather conditions make it necessary to have them closed. Two years ago, at the request of Dr. Fenton, Tuberculosis Officer for Chelsea, a shelter was erected to contain fifteen beds, in order to test the value of providing physically defective children, not definitely tuberculous, with a stay of three months under open-air conditions. The results obtained were extremely satisfactory: the children gained weight rapidly, and their bodily condition and general appearance improved enormously in every case. Recently Mrs. Howard Marsh has presented an additional shelter in commemoration of the late Professor Howard Marsh, of Cambridge. This shelter is to serve as a preventorium, and is to be devoted to the

treatment of pre-tuberculous children. The children whilst at Hayling sleep and have their meals entirely in the open air. Those undergoing this preventive treatment have no schooling during the three months they are here. They spend their time mostly on the beach and sands, and wear the minimum of clothing. There can be no doubt whatever that preventive treatment on these lines, if adopted on a much more extensive scale, would result in a very marked fall in the incidence of tuberculosis amongst children, and, apart from tuberculosis, would generally improve the health and physique of the children.

THE CAMBRIDGESHIRE TUBERCULOSIS COLONY.



THE PORTICO OF THE SIMS WOODHEAD MEMORIAL LABORATORY AT THE CAMBRIDGESHIRE TUBERCULOSIS COLONY AT PAPWORTH.

Under the presidency of the Right Hon. Sir Clifford Allbutt, K.C.B., M.A., LL.D., M.D., F.R.C.P., and the enthusiastic and able direction of Dr. P. C. Varrier-Jones, the Cambridgeshire Tuberculosis Colony, at Papworth Hall, Cambridge, has developed into the most representative

and successful industrial centre in this country for tuberculous subjects. A valuable addition to the colony was opened on May 8, when the Hon. Sir Arthur Stanley, G.B.E., C.B., M.V.O., unveiled a memorial tablet on the portico of a new pathological laboratory. The tablet bears the following inscription: "To Sir German Sims Woodhead, K.B.E., 1855-1921, Professor of Pathology in the University of Cambridge and one of the founders of Papworth Colony. A very gallant Christian gentleman." Primarily intended as a memorial to a man whose name will ever be associated with the colony, the laboratory meets a pressing need, providing an X-ray room, dark room, and pathological laboratory. It is a one-storey building of red brick, and has been erected by men of the Papworth industries. Dr. Varrier-Jones has kindly provided us with the block of the accompanying illustration, which shows the portico and entrance to the laboratory. The new cottages in the Papworth Village Settlement will be opened on July 8, at 2.30 p.m., by H.R.H. the Duke of York, accompanied by H.R.H. the Duchess of York.

Mr. Wheatley, the Minister of Health, at the recent Tenth Annual Conference of the National Association for the Prevention of Tuberculosis, July 3 and 4, declared that there were in this country 70,000 fresh cases of tuberculosis under investigation every year. He advocated the organization of "After-Care" Committees, and suggested that as the result of the deliberation of the Conference, members and delegates should "formulate a practical scheme with which he could experiment."

NOTICES OF BOOKS.

A TREATISE ON TUBERCULOSIS.

To the April number, 1923 (p. 95) of this journal I contributed a brief review of the first volume of this German handbook.¹ It is now a pleasant task to introduce volumes ii., iii., and iv. of this monumental work. The second volume is devoted to the symptomatology and treatment of pulmonary tuberculosis. The third volume deals with tuberculosis of other parts of the body (upper respiratory passages, eye, ear, skin, nervous, circulatory, ambulatory, genito-urinary, and digestive systems), and also contains illuminating chapters on tuberculosis in pregnancy and on the relationship between the endocrine organs and tuberculosis. The fourth volume concerns itself chiefly with juvenile, senile, and animal tuberculosis, with the relationship between tuberculosis and leprosy, as well as with the expert examination (refereeship) of medical and surgical cases of this multiform disease. It also contains a chapter on Hodgkin's disease. The various chapters have been written by nearly fifty experts, each of whom is a recognized authority. Every chapter not only forms a valuable, reliable, and up-to-date monograph on its own subject, but is written in a lucid and interesting style, and each is accompanied by a good bibliography. It is inevitable that in a work like this, containing the contributions of so many eminent writers, a certain amount of repetition should now and again be encountered, but it is pleasing to note that, in spite of the numerous debatable matters which are so critically considered from different angles by different contributors, there is, except on some very minor points, remarkable unanimity with regard to the verdicts finally reached. We find, for instance, that in two consecutive chapters in volume iii. on tuberculosis of the male and female genital organs, each of the authors (Dr. Ernst Frank and Professor Otto Pankow respectively) devotes considerable space to a discussion of the possibility and extent of occurrence of "cohabitation tuberculosis," and each comes to the conclusion, after carefully balancing the evidence for and against, that although such direct infection of the genital organs is theoretically possible, the cases hitherto described as such can also be explained as the indirect result of hæmatogenous infection. "Taking all circumstances into consideration, cohabitation tuberculosis plays an extraordinarily subordinate rôle in the incidence of genital tuberculosis in the female." In the chapter on tuberculosis in pregnancy, Professor Pankow also discusses the question of congenital tuberculosis, and concludes that, notwithstanding the existence of placental tuberculosis (as demon-

¹ "Handbuch der Tuberkulose." Herausgegeben von Ludolph Brauer, Georg Schröder, and Felix Blumenfeld. Dritte Umgearbeitete Auflage. Zweiter Band mit 132 Abbildungen, 8 schwarzen und zwei farbigen Tafeln. Pp. 759. Price 30 marks. Dritter Band mit 124 teils farbigen Abbildungen und 14 farbigen Tafeln. Pp. 817. Price 30 marks. Vierter Band mit 60 teils farbigen Abbildungen und 2 farbigen Tafeln. Pp. 484. Leipzig: Verlag von Johann Ambrosius Barth. 1923. Price 18 marks.

strated by the presence of tubercle bacilli) as well as the occasional finding of tubercle bacilli in children who died immediately after birth, the importance of congenital tuberculosis from the practical clinical standpoint is insignificant. Professor Kleinschmidt, in his study of tuberculosis in childhood in volume iv., also discusses the same question and comes to a similar conclusion. The question of heredity *versus* environment in connection with tuberculosis is also dealt with in duplicate. Professor Pankow produces strong clinical evidence in support of the view that infection plays a greater rôle in the incidence of tuberculosis than the inheritance of a predisposition towards the disease—a direct challenge to the doctrines of Karl Pearson, Archdall Reid, and other biometrical eugenicists who assert that the importance of environment in the development of the disease is insignificant when compared with that of heredity. Although the majority of physicians will, in the main, agree with the author's conclusions, it is to be regretted that in a work of such great scientific value as the one under review no reference is to be found, either in the text of Professor Pankow's article or in his bibliography, to the evidence of the other side. Professor Kleinschmidt in his chapter, already referred to, in volume iv., goes into this question in greater detail and comes to the definite conclusion that it is infection and not hereditary predisposition that is of importance. Notwithstanding the various experimental results in animals, upon which this conclusion is based, it is difficult to explain the fact, not quoted by either of these authors, that whilst the correlation coefficient for tuberculosis between parent and offspring is 0.5 (viz., the same as for eye-colour and other physical characters), that between husband and wife, between whom the opportunities for infection are as great as between parent and child, is no more than about 0.25, and even this small coefficient can be shown to be due not so much to infection as to assortive mating, since a similar degree of conjugal resemblance has been found for eye-colour, insanity, and other physical and non-infectious pathological characters. Moreover, experiments have been recently described which support the theory of hereditary predisposition. The truth, I have no doubt, lies between these two extreme views. A description of the examination of the cerebro-spinal fluid in cases of tuberculous meningitis is given in three different chapters. Professor Hegler in his essay on miliary tuberculosis in volume iv. gives a brief summary of the findings. Professor Kleinschmidt in the same volume goes into the matter in greater detail, whilst Dr. Bostroem in his article on tuberculosis of the central nervous system gives an elaborate account of the various methods of examining the fluid and appraises the value of each of the various tests. It is cheering to note that both Dr. Bostroem and Professor Kleinschmidt agree that, although the prognosis of tuberculous meningitis is exceedingly grave, it is not altogether hopeless. Professor Kleinschmidt's words are worth quoting. He says: "The doctor has no right to give a hopeless prognosis in the early stages. On the one hand a wrong diagnosis is possible even in apparently typical cases: on the other hand, there are well-authenticated cases in the literature in which recovery occurred." The inclusion of a chapter on Hodgkin's disease (by Professor Kurt Ziegler) in volume iv. would lead the reader to expect that the author and editors adhered to the view that the disease had a definite relationship to tuberculosis. Nevertheless,

one finds that after six pages of discussion of the ætiology of this disease and its relationship to tuberculosis, Professor Ziegler states that "the ætiology of Hodgkin's granuloma is not yet settled." Under the circumstances it seems to the writer of this review that Professor Ziegler's chapter might have been greatly shortened. Similar criticism applies, though with less force, to Professor Georg Deycke's chapter in the same volume on the relationship between leprosy and tuberculosis.

There are a couple of minor points to which the attention of the editors might be directed. One is with regard to the bibliography, which is not given on a uniform plan. It is important that when references are given in alphabetical order of the authors' names at the end of a chapter, instead of as footnotes (where the subject of the paper is known from the context), the title of the paper should never be omitted. Also in volume ii. it would be more logical to have the chapters on symptomatology either before or after those on treatment rather than sandwiched in between them. I also notice that Percy Kidd is quoted as Kidd Percy (vol. iii., p. 547), and Thomson Walker is referred to both as Thompson Walker (*ibid.*, p. 541) and as Walker Thompson (*ibid.*, p. 583). These criticisms do not in the least detract from the value of this unique and magnificent work, which can be unhesitatingly and enthusiastically recommended to all who are seriously interested in any branch of tuberculosis, whether from the practical or scientific aspect. It is a work of which the editors, the individual contributors, and the publishers may justly be proud.

W. M. FELDMAN, M.D. (LOND.), F.R.S. (EDIN.).

SUNSHINE AND OPEN AIR.

Professor Leonard Hill has produced a book¹ which will appeal to a variety of readers, both lay and medical; it will do so because it is at once a plea for a more rational usage of beneficent influences of which civilization has tended to baulk nature, and a scientific demonstration of just what these influences are. The time is certainly more than ripe for a reconsideration of nature's claims. Such a book as that given us by Dr. Leonard Hill may have great value if it hastens action against such disease-producing agencies as bad housing, smoke nuisance, poor food, and other influences inimical to the health of mankind. Dr. Hill opens with a description of the Alpine winter climate, and then follows a chapter in which is discussed the meteorology of high as compared with low altitudes. The physiological reactions are brought out in such a way as to demonstrate the effects upon diseased conditions of the clear, cold air of the mountains when combined with sunshine, powerful both in heat and actinic rays. A chapter concerned with humidity and catarrh develops one of the many departments of applied physiology which the author may almost be said to have initiated and made his own. It is very certain that if such a principle as the physiological saturation-deficit were to take its proper and important place in public health, the people would be

¹ "Sunshine and Open Air: Their Influence on Health, with Special Reference to the Alpine Climate." By Leonard Hill, M.B., F.R.S., Director of the Department of Applied Physiology of the National Institute of Medical Research. London: Edward Arnold and Co., 41 and 43, Maddox Street, W. 1. 1924. Price 10s. 6d. net.

greatly benefited. Many lessons in ventilation which were relearned during the late war still remain to be applied by the community in general, and all who are interested in the construction and conduct of public buildings should master this vital subject. The subject of sunshine and the action of light upon the organism receives exhaustive treatment in chapters which would themselves form a monograph of very high excellence. This monograph is replete with records of original work, not a little of which is due to the researches of the author and other members of the Light Committee of the Medical Research Council. The chapter on the biological action of light is of special interest and much practical importance. The rôle of light in the treatment of diseases, especially tuberculosis and rickets, is fully discussed. The importance of avoiding overheating is rightly emphasized, and it is on account of this danger that the author has advised the construction of treatment boxes for patients undergoing heliotherapy, in which the roof is open, so that a free circulation of cool air is ensured. It seems likely that it is along such scientifically directed lines that the existing empirical use of sunshine and open air in the treatment of disease will give way to a rational application of measured, optimum, doses of the sun's rays. There can be no doubt that what is wanted at the present time is some means whereby we can control adequately such a great therapeutic agent as light, which, however, unless wisely used, may become a double-edged weapon. Dr. Hill's book is to be warmly commended, not only to all medical advisers, physiologists, and physicists, but also to everyone who has at heart the best interests of education, hygiene, and the general welfare of the race. The volume is effectively illustrated with plates reproducing photographs, diagrams, and charts, and is excellently printed on good paper. Such a work should be thoroughly studied by all students of tuberculosis and open-air treatment, and certainly all who are responsible for the care and direction of tuberculous patients should read and ponder the work in its entirety.

BERNARD HUDSON, M.D.

ROBERT G. BANNERMAN, M.D.

HELIO THERAPY IN SURGERY.

At a time when world-wide interest in heliotherapy exists, the appearance of a new edition of Dr. Oscar Bernhard's remarkable work is very opportune.¹ Not the least of the reasons which make it a classic is the fact that he was and is one of the greatest pioneers in the development of the subject, an acute and patient observer, one who has had much to do with the laying of the true foundation upon which the present-day structure of heliotherapy rests. The present volume is much more than a second edition; it is considerably larger than its predecessor, and reflects the great progress made in this department of therapeutics in a relatively short space of time. While Bernhard has written

¹ "Neue Deutsche Chirurgie." Begründet von P. v. Bruns. Herausgegeben von H. Küttner in Breslau. 23 Band. "Sonnenlichtbehandlung in der Chirurgie. Einschliesslich der Künstlichen Lichtquellen." Von Dr. O. Bernhard. St. Moritz. Zweite Neubearbeitete Auflage. Ss. xvi+314, mit 149 Teils Farbigen Textabbildungen. Stuttgart: Verlag von Ferdinand Enke. 1923. Price 10.50 Swiss francs. 8s. net.

primarily for the practitioner of sun treatment, the more purely scientific sections are in themselves among the most complete accounts of our knowledge of the biological effects of light. It is well known that a link is wanting between our knowledge of the physics of light and its therapeutic application; but there is much information to hand, and all is set forth very completely and critically. Bernhard recognizes that a patient undergoing sun treatment is also subjected to other influences, and a discussion of the features of different climates, and especially of the mountain climate, is a very proper inclusion. As between Bernhard and Rollier perhaps the chief difference of technique is that whereas the latter has from the beginning advised the complete exposure of the body to the sun—apart, of course, from the question of open lesions when a superficial local action is being aimed at—the former maintains that advantages accrue from the local application of sunlight over the area of disease. He has observed, like others, that there occurs a notable rise of temperature in such a part while it is exposed, at a time when the general temperature may actually fall, and he considers that it is an advantage, in the beginning at all events, to attain this contrast effect of a locally intensive sunning. But Bernhard is alive to the important effects of general sunning in respect of pigmentation, and the practice he advises is therefore to secure a strong local tanning and then to proceed to general sun baths. The work of Leonard Hill on katathermometry is not referred to, but the practical point is noted that excessive heat is to be avoided, and that in the summer the early morning is the time of election for heliotherapy. Practical guidance is furnished for the handling of a great variety of conditions, tuberculous and non-tuberculous. Heliotherapy of open wounds is a subject specially associated with the author's name, and he rightly remarks that the stimulating and cleansing effects, not only of light, but also of fresh air upon wounds, are in general seriously neglected. The use of artificial sources of light is fully gone into. Bernhard is a reformer as well as a practitioner, and has for many years advocated the erection of public sanatoria for prophylaxis and treatment. In his book he gives designs for such institutions and information as to their direction; realizing that sites of election in the mountains are not possible for all, he does not neglect the requirements of localities less fortunately placed. The book is well illustrated and contains a lengthy bibliography; its moderate price is to be remarked upon. As a manual of heliotherapy in relation to surgery, Bernhard's book takes a first-class position and merits wide attention.

R. G. BANNERMAN, M.D.

ORGANOTHERAPY AND VACCINE AND SERUM THERAPY.

Professor D. W. Carmalt Jones has recently issued a work dealing with important departments of physiological therapeutics.¹ The volume is divided into two parts, the first being devoted to organotherapy and the second to vaccine and serum therapy. The former opens with an exposition of our present knowledge regarding the functions of the

¹ "Organic Substances, Sera, and Vaccines in Physiological Therapeutics." By D. W. Carmalt Jones, M.D., F.R.C.P., Professor of Systematic Medicine, University of Otago, New Zealand. Pp. viii + 398. London: William Heinemann (Medical Books), Ltd., 20, Bedford Street, W.C. 2. 1924. Price 15s. net.

ductless glands and general applications of organotherapy, and special chapters are devoted to a consideration of the thyroid gland, adrenaline, pituitary extract, insulin, and the minor products. The latter furnishes informing sections on current theories of immunity, specific diagnosis, general considerations regarding vaccines and sera, prophylactic inoculation, serum therapy by means of antitoxins and anti-endotoxins and other sera. There is also a chapter devoted to tuberculin. The author claims that "tuberculin in all its numerous preparations, when used for treatment, is used only as an antigen, with the intention of producing an active immunizing response in the tissues of the patient." This, of course, was not the aim of Koch when he introduced tuberculin and sought to develop a "toxi-therapy." In view of discussions relating to various forms of treatment—such, for instance, as that advocated by Spahlinger—it is interesting to note that while Dr. Carmalt Jones says that all "tuberculins" are to be considered as antigens, he claims that "the only sera that are of therapeutic value are antitoxic, and that they are only of value at very early stages of infection, because toxins rapidly combine with tissue-cells, and are then inaccessible to antitoxin." And he adds: "If this belief has anything to support it whatever, a serum can only be useless in all essentially chronic diseases, such as tuberculosis, which is practically impossible of diagnosis at its onset." As to tuberculins proper, it is shown that these, "which vary from liquid filtrates to suspensions of solid residues, are evidently substances which differ considerably from one another, and a system of nomenclature of doses which does not clearly distinguish between the liquids and solids is likely to lead to great confusion of thought, and such confusion actually does exist in very considerable degree." A serviceable account of the various tuberculins is given, and the views of the author and others given as to their employment in various forms of tuberculous disease. The whole work is a broad-minded, judicious, comprehensive, and practical exposition of promising departments of modern medicine, and will be of particular assistance to tuberculosis officers and superintendents of sanatoria, as well as helpful to the general medical adviser.

HELIOOTHERAPY AT LEYSIN.

Dr. Rollier, of Leysin, has justly won world-wide distinction through the success of his treatment of cases of so-called "surgical" tuberculosis by heliotherapy and under Alpine conditions. Medical advisers in this country have been slow to realize the importance of his studies and the value of his methods, although his writings on heliotherapy date back as far as 1905. For some time this journal has sought to direct attention to the fine work which Rollier and his colleagues have been carrying on with conspicuous success. Undoubtedly the work on "Heliotherapy" recently issued in English by Rollier and certain of his co-workers has done much to make the methods practised at Leysin better known to British surgeons and medical practitioners generally. The book is one which should be studied by all English-speaking medical advisers.¹

¹ "Heliotherapy." By A. Rollier, M.D., with the collaboration of A. Rosselet, D.Sc., M.D.; H. J. Schmid, M.D.; and E. Arnstad, M.D. With Forewords by Sir Henry Gauvain, M.A., M.D.; and C. W. Saleeby, M.D., F.R.S.E. Pp. xxii + 288, with 52 illustrations. London: Henry Frowde, and Hodder and Stoughton, The Lancet Building, 1, Bedford Street, Strand, W.C. 2. 1923. Price 25s. net.

Excellent as is this English edition in the Oxford Medical Publications series, it is not the fullest or most complete exposition of Rollier's methods and work. For this the serious student must turn to the new and second edition of "Die Heliotherapie der Tuberkulose."¹ This opens with an historical introduction, record of experimental work, and data regarding climatological considerations. Then follows a valuable detailed exposition of the technique, dosage, and clinical applications of heliotherapy, with full particulars regarding the phenomena and ultimate results of sun-cure. A lengthy section is devoted to statistical returns which should satisfy the soul of the most critical and unbelieving. The most notable and serviceable feature of this model work is the collection of striking and instructive photographs. These make the book invaluable even to those who cannot comfortably follow the accompanying text. An illustrated section provides an excellent idea of prophylactic helio-hygiene as carried out in "Die Schule an der Sonne," Dr. Rollier's open-air school for children at "Les Noisetiers" at Cergnat, Sepey, near Leysin, where children of all countries can reside for long or short periods. This epoch-marking work closes with a most representative alphabetically-arranged bibliography.

MANUALS FOR MEDICAL ADVISERS AND WORKS OF REFERENCE.

The much approved manual of the late Dr. W. G. Porter on "Diseases of the Throat, Nose, and Ear" passed through three editions, and, being now out of print, has been succeeded by a fine volume, dedicated to his memory, issued under the editorship of Mr. A. Logan Turner, with whom has been associated five of the leading Edinburgh experts in this particular speciality.² The work is an ideal one for medical practitioners and senior medical students, and we particularly commend it to all tuberculosis officers. A praiseworthy and helpful feature is the illustrated description of the clinical anatomy of the various regions. The Basel nomenclature is used, but the old terminology is also retained. Detailed accounts appear of many operations, and there is a serviceable section on endoscopy. There are excellent descriptions of tuberculous lesions involving ear, tonsils, nasal sinuses, nose, pharynx, and larynx. The section dealing with tuberculosis of the larynx provides an excellent account of the various forms of tuberculous involvement. This sound advice is given: "In all cases of pulmonary phthisis do not wait for subjective laryngeal symptoms, but look for objective signs." The appendix contains a series of formulæ

¹ "Die Heliotherapie der Tuberkulose, mit Besonderer Berücksichtigung ihrer Chirurgischen Formen." Von Dr. A. Rollier, Leysin. Zweite Vermehrte und Verbesserter Auflage. Ss. 248, mit 273 Abbildungen. Berlin: Verlag von Julius Springer, Linkstrasse 23-24, W. 9. 1924. Preis \$3.60, gebunden 3.95.

² "Diseases of the Nose, Throat, and Ear for Practitioners and Students," Edited by A. Logan Turner, M.D., F.R.C.S.Ed.; Surgeon-Consultant, Ear and Throat Department, Royal Infirmary, Edinburgh; Senior Lecturer on Diseases of the Ear, Nose, and Throat, University of Edinburgh. With the collaboration of J. S. Fraser, M.B., F.R.C.S.Ed.; W. T. Gardiner, M.C., M.B., F.R.C.S.Ed.; J. D. Lithgow, M.B., F.R.C.S.Ed.; G. Ewart Martin, M.B., F.R.C.S.Ed.; and Douglas Guthrie, M.D., F.R.S.Ed. Pp. xxii+413, with 222 illustrations in the text and 12 plates, of which 8 are in colours. Bristol: John Wright and Sons, Ltd. 1924. Price 20s. net.

which will be invaluable in treatment. This handsome, well-arranged volume, with its numerous carefully-selected and instructive illustrations, provides an ideal exposition of nose, throat, and ear work according to the teaching of the Edinburgh school. It is just the practical treatise which superintendents of sanatoria and tuberculosis officers, as well as medical advisers generally, will find of service.

Tuberculosis officers and others engaged in some special department of clinical medicine would be well advised to make it a rule to read a general work on medicine at least once a year; and if such advice is taken, we would advise that attention should first be given to the new and seventh edition of the justly popular "Wheeler and Jack's" medicine.¹ The first edition of this model of lucid, condensed, serviceable exposition appeared in 1894. The present edition has undergone careful revision, and has been thoroughly brought up to date. In arrangement and presentation this handbook could scarcely be better, and although manifestly prepared for the senior student and young practitioner, it is one which every medical adviser would do well to keep within reach. There is an excellent description of tuberculosis in the section devoted to specific infectious diseases, and in the part dealing with diseases of the respiratory system there is a concise but good account of tuberculosis of the lungs and its treatment. The volume is furnished with an effective index.

Dr. Edgar F. Cyriax has been well advised to collect his numerous writings on mechano-therapeutics.² No less than sixty-five communications have been brought together and issued in a particularly handsome and appealing volume. In sanatorium service and among tuberculous patients many cases are met with in which disabilities and discomforts can be relieved or removed by appropriate physical measures. Dr. Cyriax's studies on medical gymnastics, mechano-therapeutics in various local and general disorders, nerve lesions, torticollis, spinal deformities, joint troubles, flat feet, and the like, will prove of considerable assistance to tuberculosis officers and others dealing with patients in sanatoria, hospitals, or under home conditions.

"All nations have had recourse to aphoristic language as a manual of life, a guide in the art of living long, happily, healthily, morally, wisely, philosophically, optimistically, diplomatically, prosperously, and opportunely." So say the compilers of the second series of "Wayside Sayings."³ The first series of this collection of proverbs contained 750 chosen out of fifty-four languages; the present has 1,758 in forty-three languages. These wise sayings are effectively arranged in numbered paragraphs under headings of country or race, and there are excellent indexes and a good bibliography. This book is one which will appeal

¹ "Wheeler's Handbook of Medicine." By William R. Jack, B.Sc., M.D., F.R.F.P.S.G., Physician to the Glasgow Royal Infirmary and Lecturer in Clinical Medicine in the University, Glasgow. Seventh Edition. Pp. xv+629, with 34 illustrations. Edinburgh: E. and S. Livingstone, 16-17, Teviot Place. 1924. Price 12s. 6d. net.

² "Collected Papers on Mechano-Therapeutics." By Edgar F. Cyriax, M.D. Pp. xiv+472, with 126 illustrations. London: John Bale, Sons and Danielsson, Ltd., 83-91, Great Titchfield Street, Oxford Street, W. 1. 1924. Price 12s. net.

³ "Wayside Sayings." By Selwyn Gurney Champion, M.D., and Ethel Mavrogordato. Second Series. Pp. xvi+284. London: Duckworth and Co., 3, Henrietta Street, Covent Garden, W.C. 2. 1924. Price 7s. 6d. net.

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to doctors and patients. The collection of proverbs is a pleasant and edifying pursuit. The compilers of this novel and attractive and artistically-produced volume invite the co-operation of paræmiographers, and will be grateful to receive good proverbs not included in the series. Doubtless some readers of this notice will be glad to participate in this profitable work.

Dr. John Wishart has profitably employed, both for himself and for others, a period of invalidism consequent on a fractured clavicle in collecting extracts relating to medical subjects from literature published prior to 1850.¹ His selections will be of exceptional interest to doctors who feel the fascination of ancient days and doctrines. We venture on two quotations. The one is from Dr. Arbuthnot (1735): "Consumption, pulmonary, is a decay of the whole Body, from an Ulcer of the Lungs, the Matter of which is mix'd, circulates with and infects the Blood, and by its Acrimony infects the whole mass of the Fluids." The other is from Dr. John Quincy (1722): "*Hæmoptoick* is a person that spits Blood. It is generally from some Fault of the Lungs, the extremities of the Blood-Vessels being wore off by sharp Humours, or a thin Blood, so as to let out their Contents, and suffer it to be coughed up." We hope Dr. Wishart will provide more "whiffs" of antiquary interest.

Dr. Drewitt's little volume on the old Physic Garden at Chelsea appeals not only to doctors, but to many lovers of London's ancient places.² That this is so is evidenced by the call for a second edition, which has enabled the author to add new material, particularly as regards the trees. The history is full of charm, and has been written with much literary grace. The story, which extends over 300 years, is effectively presented in this well-arranged and very complete volume. The numerous illustrations add much to its attractiveness. Certainly medical advisers will find this record of bygone days particularly fascinating.

All who are called to live an open-air life, and everyone who in any way is responsible for the care of patients undergoing sanatorium or fresh-air treatment, should understand something of meteorology and be able to serve as a more or less reliable weather prophet. Patients undergoing climatic treatment will be wise to give attention to the fascinating study of atmospheric phenomena. An excellent introduction has been provided by Mr. Francon Williams.³ In clear, concise, practical words information is given in a popular form which will enable busy doctors and restricted patients to make use of simple meteorological instruments and study weather conditions with interest and advantage. The volume is helpfully illustrated.

Cambridge graduates and all lovers of the personalities, traditions, and history of Cambridge University life will be grateful to the Master

¹ "A Whiff of Old Times, or One Hundred Extracts from Literature prior to 1850 for Medical Practitioners and Others." Collected by John Wishart, M.D., D.Sc., Ch.B., F.L.S. Bristol: John Wright and Sons, Ltd. 1924. Price 3s. net.

² "The Romance of the Apothecaries' Garden at Chelsea." By F. Dawtrey Drewitt, M.A., M.D., F.R.C.P. Second Edition, revised and enlarged. London: Chapman and Dodd, Ltd., 66, Great Queen Street, W.C. 2. Pp. xiii + 136, with 16 half-tone illustrations. 1924. Price 5s. net.

³ "Everyone's Book of the Weather." By A. Francon Williams, F.R.S.G.S. Pp. 117. London: The Sheldon Press, Northumberland Avenue, W.C. 1923. Price 2s. 6d.

of Christ's College for his beautiful volume of "Cambridge Cameos."¹ Sir Arthur Shipley has brought together in a delightful collection a number of his fascinating essays, some of which have already appeared in various forms or been given as addresses. The volume opens with peculiarly attractive pen-pictures of East Anglia and the University in East Anglia, Cambridge University insignia and ceremonies, and these are followed by a revealing account of Christ's College and the Master's Lodge. There is a quaint paper on the "Hunting of the Yale." All who have been privileged to study in Cambridge will find much of interest in the essays dealing with the University Library, the Museum of Zoology, and the fauna of King's College Chapel. The general reader will rejoice in the biographical studies of Charles Darwin, Professor Newton, John Willis Clark, and Edward Adrian Wilson. The Master of Christ's is a master of English prose, and each delicate essay is full of artistic beauty, possesses rare charm, and is marked by much literary grace, and there are also delightful scintillations of choice humour. This is indeed a book of true delights, and one to retain among one's permanent treasures.

Squire's *Pharmacopœias* of the London hospitals, since its first appearance in 1863, has continued to rank among the medical practitioner's indispensable works of reference. A new and ninth edition, thoroughly revised and brought up to date, has just been issued.² The work provides the means for a systematic presentation of the formulæ of the chief hospitals of the metropolis. The formulæ are arranged under the headings of the chief preparations, thus permitting an immediate comparison of prescriptions in use at different institutions. The volume is a thoroughly practical compendium, and indicates at a glance the best methods for the use of the most approved therapeutic agents. The work may be taken as an epitome of the practice of the leading members of the medical profession in London. Since the issue of the eighth edition of this standard work fourteen years ago no fewer than twenty-five of the hospitals have published new editions of their *Pharmacopœias*, a fact which not only indicates the need for a new edition, but gives some idea of the labour entailed in revision. The information so effectively arranged and conveniently presented in this volume is such as should be always available for every doctor and dispenser. We earnestly commend this most serviceable of reference books for the consulting-room, hospital, sanatorium, and dispensary to the notice and service of all medical advisers.

The Year-Book of the Royal Automobile Club is a reference volume of exceptional interest and service to all users of motor-cars, and certainly every doctor should possess a copy.³ It contains club rules, news and notes, much technical information, legal advice, an excellent touring section, a directory of hotels and repairers, and much other conveniently-arranged information.

¹ "Cambridge Cameos." By Sir Arthur E. Shipley, G.B.E., F.R.S., Master of Christ's College, Cambridge. Pp. 213, with illustrations. London: Jonathan Cape, Ltd., 11, Gower Street, W.C. 1. 1924. Price 5s. net.

² "The Pharmacopœias of Thirty-one of the London Hospitals, arranged in Groups for Comparison, except the Children's and French, which are placed in the Addenda." By Peter Squire and Peter Wyatt Squire. Ninth Edition, revised by William S. Boyack. Pp. xv + 451. London: J. and A. Churchill, 7, Great Marlborough Street, W. 1. 1924. Price 12s. 6d. net.

³ "Royal Automobile Club Year-Book." Pp. xx + 36 + 344 + 222. London: The Royal Automobile Club, Pall Mall, S.W. 1. 1924. Price 4s. net.

"The Medical Annual for 1924," its forty-second volume, fully maintains its position as the practitioner's indispensable year-book.¹ It is an alphabetically-arranged review of the progress of medicine, admirably adapted for ready reference. Among the signed communications are the following: "Abdominal Surgery," by Dr. E. Wyllys Andrews; "Anæsthesia," by Dr. Joseph Blomfield; "Medical Diseases of Children," by Dr. Frederick Langmead; "Ear, Nose, and Throat," by Mr. A. J. M. Wright; "Eye Diseases," by Mr. A. Bernard Cridland; "Gastro-Intestinal Disorders," by Dr. Robert Hutchison; "Genito-Urinary Surgery," by Sir John Thomson Walker; "Gynæcology and Obstetrics," by Dr. William E. Fothergill; "Heart and Bloodvessels," by Drs. Camille Lian, R. Barrieu, and Petit and Pollet; "Acute Infectious Diseases," by Dr. J. D. Rolleston; "Liver Function Tests," by Dr. O. C. Gruner; "General Medicine," by Dr. Herbert French; "Mental Diseases," by Dr. C. Stanford Read; "Diseases of Nervous System," by Sir James Purves-Stewart; "Surgery of Nervous System," by Dr. J. Ramsay Hunt; "Orthopædic Surgery," by Mr. E. W. Hey Groves; "Psychological Medicine," by Dr. J. A. Hadfield; "Public Health," by Dr. Joseph Priestley; "Radio-Activity and Electro-Therapeutics," by Dr. Chas. Thurstan Holland; "Renal and Urinary Diseases," by Dr. John D. Comrie; "Diseases of Respiratory Tract," by Dr. William H. Wynn; "Skin Diseases," by Dr. E. G. Graham Little; "General Surgery," by Sir W. Ireland de Courcy Wheeler; "Rectal Surgery," by Mr. J. P. Lockhart-Mummery; "Tropical Diseases," by Sir Leonard Rogers; and "Venereal Diseases," by Colonel L. W. Harrison. The index contains no less than sixty-nine references under the headings of Tuberculosis and Tuberculin. Dr. W. H. Wynn provides an excellent epitome of recent communications on pulmonary tuberculosis. There is a useful directory to sanatoria for consumption and other forms of tuberculosis. This authoritative annual should be in the possession of every British medical adviser at home and abroad.

"The Empire Municipal Directory" is now in its forty-second year, and the present issue has been thoroughly brought up to date.² In addition to its convenient diary, it contains complete and authoritative lists of corporations, county, urban, and district councils, with data regarding populations, municipal undertakings, officials, etc., together with much other matter likely to be of service for reference and relating to municipal engineering and public health services.

Those considering the question of building in connection with hospitals and sanatoria, or planning the construction of hygienic houses, will be well advised to consult the admirable series of publications issued by the Concrete Utilities Bureau. These deal in detail with all the forms in which concrete can now be used. We would

¹ "The Medical Annual: A Year-Book of Treatment and Practitioner's Index." Edited by Carey F. Coombs, M.D., F.R.C.P., and A. Rendle Short, M.D., B.S., B.Sc., F.R.C.S. Forty-second Year. Pp. lxxxiv+616+159, with 146 illustrations and 54 plates. Bristol: John Wright and Sons, Ltd. 1924. Price 20s. net.

² "The Empire Municipal Directory and Year-Book for 1924-25." Pp. 336, and diary. London: *Municipal Engineering and the Sanitary Record* offices, 8, Bream's Buildings, Chancery Lane, E.C. 4. 1924. Price 10s. 6d. net.

particularly direct attention to the illustrated manual prepared by Mr. A. Lakeman on concrete cottages and bungalows.¹

Under the title of "Let there be Light," the authorities of the Lord Mayor Treloar Cripples' Hospital, Alton, have issued an illustrated popular description of the new light department.²

The Seventeenth Annual Report of King Edward VII. Sanatorium states that 244 patients were admitted during the year ending June 30, 1923. There are tables giving general results of treatment, cases of artificial pneumothorax, and statistical statements regarding ultimate results.

Mr. G. R. Girdlestone, of Oxford, has issued in brochure form his suggestive paper on "The Modern Treatment of Tuberculosis of Bones and Joints," recently read at the Cambridge meeting of the Tuberculosis Society.

The London Magazine for June and July contained an article on "The Conquest of Consumption," by David Masters, giving illustrations and particulars relating to M. Henri Spahlinger's investigations at Geneva, and methods for treating tuberculosis.³

The current number of *Nutrition and Pediatrics* contains a lecture by Sir Henry Gauvain on "The Extent and Nature of Damage done by Tuberculosis derived from Infected Milk and Methods of Prevention."⁴

The Rockefeller Institute for Medical Research continues to issue its volumes consisting of reprints. The latest contains a valuable series of studies grouped under the headings: Pathology and Bacteriology, Biophysics, Experimental Surgery, General Physiology, Animal Pathology, and the Hospital of the Institute.⁵

A Supplement 1921-23 to the General Catalogue of Lewis's Medical and Scientific Circulating Library has just been issued.⁶

We have received the first number of the *Polskie Archiwum Medycyny Wewnętrznej* (Polish Archive of Internal Medicine). It is published under the auspices of the Polish Society of Physicians, with the aid of the Ministry of Education. It is a quarterly journal, and will aim at presenting the scientific investigations of the Polish physicians. Among the articles in the number before us is a paper on "The Diagnosis of Syphilitic Affections of the Lungs," and records of the researches on Pirquet's test.

¹ "Concrete Cottages, Bungalows, and Garages." By Albert Lakeman, M.S.A., M.I.Struct.E. With drawings by T. Raffles Davison, Hon. A.R.I.B.A. Second Edition. Pp. xv + 227. Price: paper covers, 3s. 6d.; cloth, 5s. See also series of sixteen pamphlets on various forms of Concrete Construction issued by the Concrete Utilities Bureau. London: Concrete Publications, Ltd. Editorial office, 35, Great St. Helen's, E.C. 3; publishing office, 4, Catherine Street, W.C. 2.

² A copy of "Let there be Light" can be obtained on application to the Secretary at the London office, 25, Ely Place, E.C. 1.

³ *The London Magazine* is issued by the Amalgamated Press (1922) Limited, The Fleetway House, Farringdon Street, E.C. 4. Price 1s.

⁴ *Nutrition and Pediatrics* is issued quarterly from the offices of Glaxo, 56, Osna-burgh Street, N.W. 1.

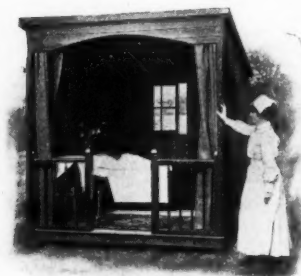
⁵ "Studies from the Rockefeller Institute for Medical Research." Vol. XLVII. Pp. 602. New York: The Rockefeller Institute for Medical Research, Avenue A and 66th Street.

⁶ The Supplement is published at Lewis's Library, 136, Gower Street, and 24, Gower Place, W.C. 1, price 1s. The complete catalogue revised to end of 1917, with Supplement 1918-20, can be obtained by subscribers, 6s. net, non-subscribers, 12s. 6d. net.

PREPARATIONS. AND APPLIANCES.

EQUIPMENT FOR SANATORIA, HOSPITALS AND PATIENTS.

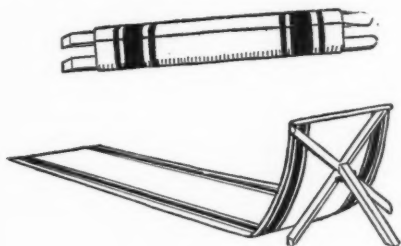
A REVOLVING SHELTER is of the greatest service in carrying out open-air treatment for tuberculous patients, whether under home-garden conditions or in connection with institutional management. The



THE STRAWSON REVOLVING SHELTER.

accompanying illustration indicates the Strawson Revolving Shelter, a strong, durable, inexpensive, and thoroughly practical construction. It is built in sections, and so can be easily erected or transferred. The size is 7 ft. by 7 ft., and it is well constructed of excellent materials. Within it is stained and varnished, while the outside has been treated with a brown-coloured preservative. The roof is covered with ruberoid. The shelter has been approved by the Ministry of Health. The price, carriage paid to any station in England and Wales, is £18.¹

The JOLLI-LOUNGE is a simple and serviceable protector and easy resting support, which should be popular among all who, for health or holiday, live in the open air. The essential features are indicated in the



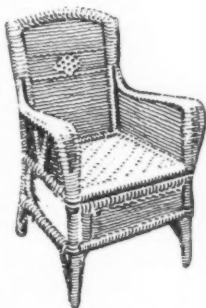
THE JOLLI-LOUNGE.

accompanying figure. It is strong, durable, portable, and convenient for travel, and, of course, can be used anywhere.²

¹ Full particulars regarding the Strawson Revolving Shelter can be obtained from the constructor, G. F. Strawson, St. Andrew's Works, Horley, Surrey.

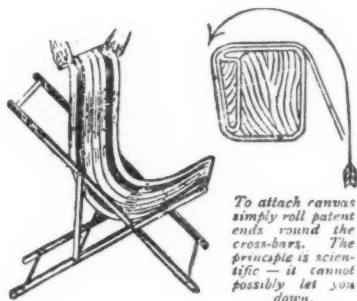
² The Jolli-Lounge is supplied by The Utilities Supply Co., Ltd, 106, Norwood Road, S.E. 27. Price 3s. 6d. and 4s. 9d., according to quality; waterproof, 5s. 11d. Postage 6d. extra.

At this season of the year it is essential to provide, not only for use in private gardens and public pleasure-places, but also in hospitals and sanatoria, convenient and comfortable chairs suitable for individual requirements, and capable of meeting all weather conditions. The "CITADEL" SEA GRASS CHAIRS AND FURNITURE are admirably adapted for use out of doors.¹ They offer many advantages. First, they are durable, and are not readily damaged by bad weather. Secondly, they are free from nails and screws, and fold flat for storage and removal. The chairs are available in a number of artistic and comfortable models, suitable for the most tastefully furnished room, or for terraces, tennis courts, golf clubs, and gardens. The chairs are hand-made, of finest sea-grass, closely plaited on a sturdy frame. We particularly commend the Citadel chairs for sanatoria and open-air schools.



A CITADEL CHAIR.

THE COLLIER DETACHABLE CHAIR CANVAS SEAT is a simple, effective, inexpensive means for ensuring dry and clean covers for deck chairs. This novelty is justly popular on board ships, in gardens, and especially for use by patients undergoing open-air treatment.² The form and



To attach canvas simply roll patent ends round the cross-bars. The principle is scientific — it cannot possibly let you down.

THE COLLIER DETACHABLE CHAIR CANVAS.

means of using this ingenious contrivance is indicated in the annexed figure. There are no tacks to tear clothes. An easy adjustment and all is in order. The canvas can be removed or replaced in a few seconds. It can be supplied to fit all forms of frame. The fabric can be reversed, as the pattern is woven right through, both sides looking alike.

¹ An illustrated descriptive price list of the Citadel Chairs and Furniture can be obtained on application to the Citadel Co., Ltd. (Directors: D. M. Ross, E. A. Davies, and W. A. Shepherd). 182, Stockport Road, Rusholme, Manchester.

² The Collier Detachable Chair Canvas is the invention of Mr. Vincent Collier, London Road, Worcester Park, Surrey. The prices are 1s. 6d., 1s. 9d., 2s. 3d., and 2s. 6d., according to quality.

The annexed illustration indicates the chief features of a new and excellent form of SPONGE HOLDER, which will be a welcome part of the equipment of a bathroom in sanatoria, hospitals, as well as private houses.¹ The attachment can be readily fixed to the wall or adjacent woodwork. The holder itself is constructed of strong white metal, electroplated, and with stout white netting, a total weight of 12 ozs.



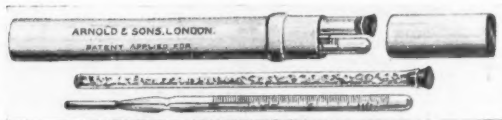
THE BELFAST SPONGE HOLDER.

takes up the paraffin, and a hood or cowl which protects the flame. It is said to burn for 100 hours at the cost of 1d. A receptacle can be fitted on the top of the hood, so providing a convenient means for vaporizing medicaments, perfumes, or disinfectants. This novelty will be useful in sanatoria, as well as in the ordinary home, especially where children and invalids have to be cared for.



THE ASEPTIC THERMOMETER VAPORIZER FOR THE ALADDINETTE CANDLE LAMP.

CASE.—Thermometers may be a means for the propagation of disease. It is essential that care should always be taken to secure proper disinfection. Dr. Charles Pentland has devised the form of case indicated in the accompanying illustration. It contains two compartments: one is for the clinical thermometer; the



THE ASEPTIC THERMOMETER CASE.

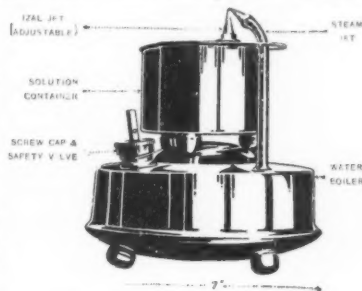
other consists of a glass tube carrying potassium permanganate crystals, or any other suitable solid germicide. The tube has a small aperture at its lower end, through which a few crystals of the disinfectant can

¹ The Belfast Sponge Holder is made by Chiford, McMullan and Co., 36, Bedford Street, Belfast, Ireland. Price 7s. 6d.

² The Aladdinette is made by Aladdin Industries, Ltd., 10, Aladdin House, 136, Southwark Street, S.E. 1. Showrooms: 48, Mortimer Street, near Oxford Circus, W. 1.

be shaken into a glass of water, and a solution made into which the contaminated thermometer is placed.¹

THE "ZAL" DISINFECTOR is a simple, effective, inexpensive agent for the provision of Izalized steam which has been proved to be a powerful germicide.² Its chief features are indicated in the accompanying figure. There is a water boiler and an Izal solution container, each with jet. This appliance provides a reliable means for the disinfection of rooms, offices, schools, workshops, etc., and for the bactericidal cleansing of clothing and furniture. It also provides a useful means for the provision of medicated steam for inhalation, particularly useful in the treatment of catarrhal states and other lesions, involving nose, throat, and respiratory passages. The "Zal" Disinfector will be of service in dealing with many tuberculous cases, not only in hospitals and sanatoria, but in homes of patients.



THE "ZAL" DISINFECTOR.

The new ARIDOR JARS will be a boon to housekeepers and others responsible for the care of tea, coffee, sugar, sweetmeats, biscuits, oat-meal, breakfast cereals, and the like, which require to be kept in absolutely dry air.³ They will be invaluable for use in sanatoria and homes conducted on open-air lines. The jars will also be of service for the preservation of fine chemicals, and for storing surgical instruments, etc. These jars have wide mouths, rounded corners, look well on a kitchen shelf, and are made of strong crystal-clear glass, and with a quarter turn of the lid are sealed airtight.

The psychological influence of environment on the patient is a factor of far-reaching importance. Many of our public sanatoria and hospitals are lacking in artistic adornments, and the equipment leaves much to be desired as regards colour and beauty. It is very desirable that articles used for the adornment of the table, or for service in the rooms of the patient, should be satisfying to the æsthetic sense. This is particularly the case with utensils required for the table and the bedroom. These being exposed oftentimes to the influence of wind and weather, have to be strong and inexpensive, but, even so, they can be beautiful. We would direct attention to the attractive MONKSWARE POTTERY made at Canterbury in Kent.⁴ At low prices, chaste examples of the potter's art can be obtained. Some of the designs are reproductions of Roman pottery, but each specimen is made separately by hand on the potter's

¹ The Aseptic Clinical Thermometer Case is supplied by Arnold and Sons (John Bell and Croyden, Ltd.), 50-52, Wigmore Street, W. 1. Price of case, nickel-plated, with glass tube, 2s. 9d.; thermometer, "Easy Shake," $\frac{1}{2}$ -minute, magnifying, 3s. 3d.

² The "Zal" Disinfector is supplied by the manufacturers of Izal (Newton, Chambers and Co., Ltd., Thorncliffe, near Sheffield), from whom full particulars can be obtained. The price is 35s.

³ The Aridor Jars are supplied by the Aridor Manufacturing Co. (Great Britain), Ltd., 40-43, Norfolk Street, Strand, W.C. 2, from whom full particulars can be obtained on application. The price is: 2-lb. size, 3s. 9d.; 4-lb. size, 4s. 3d.

⁴ A price list of the Monksware Local Pottery (Proprietor: W. S. Cozens), 5, Dover Street, Canterbury, will be sent on application.

wheel. Mr. Cozens, the director of this artistic industry, will gladly furnish particulars regarding the bowls, jugs, vases, candlesticks, etc., constructed under his supervision at the "Olde Canterbury Potteries."

HYGIENIC AND THERAPEUTIC SPECIALITIES.

Many patients undergoing open-air treatment, especially in the cold and wet days of winter, suffer much discomfort and actual pain from rheumatic and rheumatoid affections, fibrosities, and allied morbid conditions. For such thiosinamin, obtained by the action of ammonia upon allyl isosulpho-cyanide, or oil of mustard, appears oftentimes to be of service. Under the designation of IODOLYSIN, a compound of thiosinamin has been introduced, which promises to be of service in relieving arthritic troubles and some of the so-called forms of neuritis and fibrositis so commonly met with in tuberculous subjects and others.¹ "Iodolysin" is a compound of thiosinamin with iodine, containing 43 per cent. of the former and 47 per cent. of the latter; it is soluble in water and non-irritating when injected subcutaneously. "Iodolysin" can be administered orally in the form of "Kapsol" gelatine-coated capsules, or unflavoured solution. For hypodermic injection the "Azoule" form of glass capsule is available in two sizes, containing 15 and 30 minims of solution respectively. An "Iodolysin" ointment has also been introduced as an adjunct, and, on gentle massage, is readily absorbed.



THE DIMOL
INSUFFLATOR.

DIMOL, introduced by Mr. J. T. Ainslie Walker, has found much favour as a safe and reliable agent for securing intestinal disinfection, particularly in cases of alimentary toxæmia. Dimol is now available in the form of an insufflation powder, which is best used with the specially designed insufflator, an illustration of which is appended.² The bactericidal strength is given as equal to 20 per cent. pure phenol, and it is said to be free from all deleterious action on the mucosa. It seems likely to be of service in treating catarrhal states of the nose and pharynx which are so commonly present in tuberculous subjects. Dimol has also been helpful in the control of the troublesome symptoms usually present where tuberculous infection has involved the mucous membrane of the intestinal tract.

Under the designation of ANGIOLYPHE a new preparation has been introduced by Dr. Rous of Paris, which is claimed to be of service in the treatment of all forms of tuberculosis.³ It is said to be derived from plant

¹ "Iodolysin" preparations are supplied by Allen and Hanburys, 37, Lombard Street, E.C. 3, from whom a booklet giving full particulars can be obtained on application.

² Dimol, in the form of insufflation and lavage powders, pulverettes, and syr up, can now be obtained from the Anglo-French Drug Co., Ltd., 238a, Gray's Inn Road, W.C. 1, from whom full particulars can be obtained.

³ Angiolympe is supplied by Powell, Gibb and Taylor, Ltd., 44, Bow Lane, Cheapside, E.C. 4, from whom all available literature on the subject can be obtained on application.

extracts of various Irideæ, and is available in ampules for intramuscular injection. Its action seems to be mainly dependent on its stimulation of phagocytic action.

ASELLINE FOOD is a new preparation which is stated to be a substitute for Cod-Liver Oil, and useful in tuberculosis and other diseases marked by wasting and asthenia. It contains soluble carbohydrates, small quantities of protein, albumen and fat, the therapeutic elements characteristic of cod-liver oil (salts of sulphur, phosphorus, calcium, bromine and iodine), and a number of other salts in an electronic state.¹

Dr. Bengué's **MENTHOL DRAGÉES** are composed of menthol, cocaine, and hydrochlorate and borate of soda, and are undoubtedly very useful in relieving irritable conditions of the throat and soothing cough in bronchial troubles and some cases of tuberculosis.²

ALLONAL is allyl-isopropyl-barbituric acid with phenyl-dimethyl-dimethylamino-pyrazolon, one of the Roche brand of synthetic preparations. It is a new non-narcotic, non-habit-forming, hypnotic and analgesic, not subject to the D.D.A. restrictions.³ It is said to be effective in a number of morbid states accompanied by insomnia and certain forms of pain. It appears probable that it may be of service in some cases of tuberculosis.

Liquid paraffin is now in much favour as a laxative and intestinal lubricant and sedative. Under the name of **MUTHOL**, a particularly elegant solid emulsion has recently been introduced which only requires to be used to be appreciated.⁴ It is a creamy substance of jelly-like consistence, with a slightly sweet taste, and can be obtained flavoured with either raspberry, orange, or lemon.

ANALAX is a palatable laxative confection in the form of pastilles, the action of which is unattended by discomfort, and may be taken by children and adults at any time.⁵ The active principle appears to be phenolphthalein.

FROZOCLONE is a novelty which tuberculous and other patients undergoing sanatorium treatment, especially during the hot days of summer, will greatly appreciate.⁶ It is a solid preparation of eau de Cologne. When rubbed into the forehead, or used like a smelling bottle, it brings comfort and refreshment. Doctors and others who have to motor will find Frozoclone a real acquisition.

EMOL KELEET is an excellent natural sedative emollient dusting powder, which is of particular service in allaying the irritation met with in a number of cutaneous derangements.⁷ It is also useful as a local

¹ A specimen and particulars of Aselline Food will be sent to any medical practitioner on application to J. M. Borup, 9, Edmund Place, E.C. 1.

² Dr. Bengué's Menthol Dragées are supplied in boxes, 2s. each, by Dr. Bengué and Co., 91, Great Titchfield Street, W. 1.

³ Allonal is manufactured by the Hoffmann-La Roche Chemical Works Ltd., 7 and 8, Idol Lane, E.C. 3, from whom specimens in the form of tablets, with full particulars, may be obtained.

⁴ Muthol is manufactured at R. Demuth's Laboratories, 68, Salisbury Road and Montrose Avenue, N.W. 6.

⁵ Analax is manufactured by R. Demuth, 68, Salisbury Road, West Kilburn, N.W. 6, from whom specimens and particulars may be obtained on application.

⁶ Frozoclone is supplied in dainty metal-topped green-coloured glass cases, price 3s. 6d. each, by the R. Demuth Laboratories, 68, Salisbury Road and Montrose Avenue, N.W. 6.

⁷ Emol Keleet is supplied by Fassett and Johnson, Ltd., St. John's Gate Buildings, 86, Clerkenwell Road, E.C. 1.

application to the feet and elsewhere in tuberculous patients, especially when undergoing regulated exercise.

At this season of the year—at least, in certain places—difficulties arise in living the open-air life from the attacks of mosquitoes, gnats, midges, and other insects. For combating successfully these irritants we would commend the well-established preparation MUSCATOL. This needs only to be known and used by patients, anglers, golfers, campers, sportsmen, tourists, and travellers, for its virtues to be appreciated. We particularly commend it to the attention of tuberculous patients undergoing sanatorium treatment. It is a clean, non-sticky, almost colourless liquid with pleasant odour, which can be sprinkled upon the hands, face, neck, or sprayed on any exposed part of the body, and is a really reliable protective.¹

Under the designation of SKETOFAK, Messrs. Burroughs Wellcome and Co. have introduced an antiseptic cream which scientifically-conducted tests have proved to be a reliable culicifuge.² It is supplied in convenient collapsible tubes. Patients undergoing open-air treatment will appreciate this serviceable protective from the bites of irritating insects.

Tuberculous patients, both children and adults, should receive explicit instructions in regard to the hygienic care of the hands. This is a matter too often neglected by doctors and nurses. Patients handling sputum flasks, contaminated pocket-handkerchiefs, or placing the hand before the mouth when coughing may readily get tuberculously-infected material on their hands. The dust of dried sputum can easily collect in and about the nails. It is essential that consumptive patients should always wash the hands thoroughly before a meal and give special attention to the cleansing of the nails. In this matter much assistance can be obtained by a judicious use of the excellent "Cutex" Manicure Preparations. The CUTEX COMPACT MANICURE SET provides an inexpensive, thoroughly effective, and convenient outfit, with all necessary appliances for practical service.³

¹ Full particulars regarding Muscatol (which is available in sprinkler bottles, 2s. to 10s., or with special spray, 7s. 6d.) can be obtained from Frank A. Rogers (W. E. Melville Cook, M.P.S.), 1, Beaumont Street, Wimpole Street, W. 1.

² Particulars regarding Sketofax can be obtained on application to Burroughs Wellcome and Co., Snow Hill Buildings, E.C. 1.

³ The Cutex Specialities and Cutex Manicure Sets are made by Northam Warren Corporation of Montreal and New York, and supplied in this country by Henry C. Quelch and Co., 4 and 5, Ludgate Square, E.C. 4. The Cutex Sets are available at 3s., 6s., 9s. 6d., and 19s. each.

THE OUTLOOK.

LARYNGEAL TUBERCULOSIS.

SIR STCLAIR THOMSON has rendered a notable service by his study of tuberculosis of the larynx, as exemplified by an analysis of 2,541 cases investigated at the King Edward VII. Sanatorium at Midhurst.¹ The results are effectively presented in thirty-eight tables, and the subject-matter is conveniently grouped under thirty sectional headings. Every medical adviser having to deal with tuberculous cases in sanatoria or elsewhere should study this able and informing monograph. In 1921 the deaths from tuberculosis of the respiratory system in England and Wales amounted to 33,505. For every death from tuberculosis it has been estimated that there are at least five persons ill with the disease, which means that in 1921 there were in this country no less than 167,525 patients with pulmonary tuberculosis. Sir StClair Thomson is of opinion that on an average one out of three patients with active phthisis has a laryngeal lesion: "this gives us 55,841 as the number of patients to be met with in a year in England who require our knowledge and care for their tuberculous laryngitis. When we remember that one-third of all the deaths occurring during the prime of life—between fifteen and forty—are due to tuberculosis, we realize why this has been considered the most important disease with which humanity has to cope." Sanatorium practice provides opportunities for the continuous study of laryngeal tuberculosis, especially early invasion, and, moreover, offers means for following up the after-history of patients. In bygone years the prognosis was considered very unfavourable, and there seems good grounds for the gloomy outlook. "Of all the cases of laryngeal tuberculosis—many of them in an early stage, and as a whole much more promising than the average—which I saw at Midhurst between 1911 and 1921, 70·5 per cent. are already dead! That does not show a 'benign disease'!" Active tuberculosis limited to the lung is by itself never a benign disease, and when a laryngeal complication is added we have always a dangerous malady." Of the 2,541 patients examined, 18·77 per cent. showed evidence of tuberculous involvement of the larynx. In fatal cases of pulmonary tuberculosis post-mortem room data give 48 to 83 per cent. as showing laryngeal tubercle. The section on Difficulties and Errors in Diagnosis

¹ "Tuberculosis of the Larynx: Ten Years' Experience in a Sanatorium." By Sir StClair Thomson, M.D., F.R.C.P., F.R.C.S. Pp. 91, with seven plates. Issued as Special Report Series, No. 83, of the Medical Research Council (Publications Department), National Institute for Medical Research, Hampstead, N.W. 3. London: H.M. Stationery Office, 1924. Price 2s. 6d. net.

merits special attention. This valuable report should arouse tuberculosis officers and others to greater thoroughness in carrying out an examination of the larynx. The larynx of every patient with pulmonary tuberculosis should be carefully inspected. We may go even further, and say that if the patient is only suspected of tuberculosis he should be submitted to a careful laryngoscopic examination. "The public should be taught that anything more than a temporary huskiness or discomfort of the throat requires just as much consideration as a diminution of eyesight or a pain in the ear. No one, at any age, should be husky continuously for more than three weeks without obtaining an expert examination of his larynx. At any age, but particularly in early adult life, it may lead to the diagnosis of tubercle." The sections devoted to treatment are of exceptional interest. The value of this unique report is greatly enhanced by the records of cases and the admirable series of illustrations, and all is presented with scientific precision and much literary grace.

NOTES AND RECORDS.

The International Union against Tuberculosis, which was established in 1920 with the object of co-ordinating and stimulating anti-tuberculosis effort throughout the world, has held Conferences in Paris, 1920; London, 1921; Brussels, 1922; and on August 5, 6, and 7 meets in Lausanne. The Conference is open to members of the International Union. Ordinary members from Great Britain are elected on the recommendation of the National Association for the Prevention of Tuberculosis, and receive a copy of the *Bulletin* (the quarterly journal of the International Union), and are entitled to attend the Conferences and receive a copy of the Proceedings of the Conferences. The annual subscription payable by ordinary members of the International Union is £1. The following are the chief subjects for discussion at this year's gathering: (1) "Do there exist in Nature or can there be artificially produced Saprophytic Varieties of Koch's Bacillus which possess the Property of becoming Virulent Tubercle Bacilli?" opened by Professor Calmette of Paris; (2) "The Relationship between Pregnancy and Tuberculosis," opened by Professor Forssner of Stockholm; (3) "The Effects of the Anti-Tuberculosis Campaign on the Diminution of the Mortality from Tuberculosis in Different Countries," opened by Sir Robert Philip of Edinburgh. Professor Sahli of Berne will lecture on "The Defence of the Organism against the Tubercle Bacillus," and Professor Léon Bernard of Paris will lecture on "Prophylaxis in Childhood against Tuberculosis." Arrangements are being made for members of the Conference to participate in a tour of eight days, visiting the principal anti-tuberculosis centres in Switzerland, including Leysin, Montana, Heiligen-schwendi, Berne, Zurich, Davos, and Arosa.

The Davos Medical Association is organizing in conjunction with the Davos Research Institute the Second Post-Graduate Course for Medical Practitioners on "Tuberculosis and the Alpine Climate" during the week August 17 to 24. The course will be given in French and German. After the course at Davos arrangements will be made for those who desire to visit Arosa. Further particulars will be published in a detailed prospectus in the course of the next few weeks.

In view of the Conference, Sir Henry Lunn, M.D., of 5, Endsleigh Gardens, Euston, London, N.W. 1, has planned a number of tours centring in Montreux, a few miles from Lausanne, where members of the profession can stay and enjoy the advantages of a Swiss holiday. Those taking these tours will be entertained for two days at the Palace Hotel Sanatorium, Montana-sur-Sierre, and the cost of the railway journey from Montreux to Sierre and back will not be included in the charge made for the tour, as the Sierre-Montana-Vermala Railway has arranged to provide free passes for medical advisers availing themselves of these arrangements for the journey from Sierre to Montana and back. Members will be entertained as Sir Henry Lunn's guests at the Palace Hotel, Montana, and should write to the Manager beforehand, informing him when they wish to arrive, so that rooms may be available on their arrival.

Dr. Rollier will not hold his customary Summer Post-Graduate Course of Lectures and Demonstrations this year, but his clinics will be visited in connection with the tour above mentioned.

The Sunlight League has recently been formed. Its aims, as formulated by Dr. C. W. Saleeby, Chairman of Council, are as follows: "The recording of sunshine in the streets and alleys of smoky cities, as well as at health resorts, using means to indicate the chemical activity of the sun's rays rather than its heat. The removal of rickety children from large towns to sanatoria in sunlit places. The systematic use of sunbaths as a preventive and therapeutic measure in rickets and other diseases. The education of the public to the appreciation of sunlight as a means of health, teaching the nation that sunlight is Nature's universal disinfectant as well as a stimulant and tonic. Such knowledge will also stimulate efforts for the abatement of smoke and for the multiplication of open spaces, especially as playgrounds for the children of the poor."¹

Dr. Ronald Campbell Macfie and Mr. Norman Franklin Potter, B.A., at the Villa Genisé, Villars-sur-Ollon, Switzerland, are developing an interesting educational and health centre for delicate and debilitated children. Villars is a much approved health and sports station, and offers special advantages for young subjects who, on grounds of health, have to winter in Switzerland. Full particulars may be obtained on application to the above address.

In connection with the work of the Lord Mayor Treloar's Hospital for Crippled Children, Alton, Hants, probationers are received at the age of eighteen years. The training is for three years, and is valuable to those intending to become fully trained nurses, but who are too young to start general training. Part of the training may be given at the seaside branch at Hayling Island. Candidates must be well educated. Salary: £16 first year, £20 second year, £24 third year, with board, lodging, uniform, and laundry. Particulars on application to the Matron.

The recently issued Report of the Scottish Board of Health contains a section on tuberculosis, in which it is stated that "Scotland, which since 1915 has had a lower death-rate from pulmonary tuberculosis than either England or Ireland, with the solitary exception of the years

¹ Particulars regarding the Sunlight League may be obtained on application to the Hon. Secretaries, Miss May Scanlan and Dr. Hector Munro, 20, Park Crescent, Portland Place, W. 1.

1919 and 1920, has had since 1899 a higher death-rate in other forms of tuberculosis than either of the other countries."¹ At the end of 1923 there were 107 sanatoria, hospitals, and other residential institutions (exclusive of poor law institutions) approved for the treatment of tuberculosis, and of this number twenty-four had accommodation for fifty or more patients. The total number of beds reserved for cases is 3,953. There are thirty-one approved tuberculosis dispensaries.

Mr. G. R. Girdlestone of Oxford read a suggestive and informing paper on tuberculosis of bones and joints at the recent Cambridge meeting of the Tuberculosis Society.²

Professor A. Calmette of the Paris Pasteur Institute has just presented a communication to the French Academy of Medicine in which he expounds his views and methods for the development of immunity in young children against tuberculous infection.

Sir Leonard Rogers in the fourth of his Croonian Lectures gives full particulars regarding his investigations respecting the use of chaulmoogrates and morrhuaes in tuberculosis.³

The Meteorological Office of the Air Ministry has just issued a further report on Atmospheric Pollution, which indicates clearly that hitherto we have paid too little attention to the importance of keeping pure the air we have to breathe.⁴

The Industrial and Health Speakers' Service of the New York Tuberculosis Association has just issued an excellent illustrated four-page tract, "Waking-Wide Awake," giving a novel description of stimulating physical exercises.⁵

During the Tenth Annual Conference of the National Association for the Prevention of Tuberculosis, July 3 and 4, the main subjects under consideration were: "The Part Played by Training Colonies in the Treatment of Tuberculosis," and "The Organization of Care Committees."⁶

¹ "Fifth Annual Report of the Scottish Board of Health, 1923." Pp. 274. Edinburgh: H.M. Stationery Office, 120, George Street. 1924. Price 8s. 4d., post free.

² Mr. Girdlestone's paper on "The Modern Treatment of Tuberculosis of Bones and Joints" appears in the July number of *Tubercle*.

³ Croonian Lectures on Leprosy and their Bearing on the Treatment of Tuberculosis. Lecture IV.: "The Use of Chaulmoogrates and Morrhuaes in the Treatment of Tuberculosis." *The Lancet*, June 28, 1924, p. 1297.

⁴ "Meteorological Office of the Air Ministry: Ninth Report of the Committee for the Investigation of Atmospheric Pollution." Pp. 59, with figures, charts, and tables. London: H.M. Stationery Office, 1924. Price 4s. 6d. net.

⁵ Copies of "Waking-Wide Awake" can be obtained from the New York Tuberculosis Association, Inc., 10, East 39th Street, New York City.

⁶ An illustrated descriptive booklet has been issued on the Burrow Hill Training Colony for Tuberculous Ex-Service Men at Frimley, Surrey, and copies may be obtained on application to Miss Freda Strickland, Secretary, National Association for the Prevention of Tuberculosis, 20, Hanover Square, W. 1.